

**UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF NEW JERSEY**

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ATOTECH USA INC.

and

ATOTECH DEUTSCHLAND GMBH

Plaintiffs,

v.

MacDERMID INC.,

Defendant.

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Civil Action No. 05-5517 (FSH)

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**ATOTECH’S MOTION FOR SUMMARY JUDGMENT AND  
FOR CONSTRUCTION OF THE PATENT CLAIMS**

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## **I. INTRODUCTION**

Dr. Kenneth Newby of plaintiff Atotech invented and patented a novel method of chrome plating that defied conventional reasoning. Atotech commercialized Dr. Newby's invention and developed a complete proprietary system that revolutionized the industry—HEEF 25.

Desperate to enter this lucrative market, MacDermid set out not to develop a competitive non-infringing product, but instead to make a knock-off of Atotech's complete product line. This was important to MacDermid because it wanted interchangeability between its products and Atotech's. To this end, MacDermid deliberately misappropriated the formulas for all but one Atotech product by violating the confidentiality provisions of a number of license agreements that Atotech had with companies acquired by MacDermid. MacDermid, however, lacked access to the formula for the one component it thought was critical—Atotech's HEEF 25R Liquid Replenisher. When in over six months of effort MacDermid could not verify that it had successfully recreated HEEF 25R, it enticed an employee of an Atotech distributor to surreptitiously obtain a sample of Atotech's product through the promise of a future job with MacDermid. The employee got the sample, gave it to MacDermid, and within two weeks of starting the tests, MacDermid had successfully copied HEEF 25R. And the employee was hired.

Once armed with the knock-off of the HEEF 25 product line and related Atotech proprietary marketing information MacDermid set out, in its own words, to "inflict as much damage on [Atotech] as possible."

Now, having been caught, MacDermid claims that Atotech's patents are, fortuitously, invalid, unenforceable and not infringed. Atotech contends that the validity of and enforceability of Atotech's patents are beyond fair dispute, and that MacDermid's non-infringement defense is pure sham. Accordingly, Atotech asks this Court, upon construing the claims, to grant summary

judgment determining that the patents are valid and enforceable, that claim 15 of the '813 patent is infringed, and dismissing MacDermid's "Walker Process" counterclaim.

## **II. SUMMARY OF THE ARGUMENT**

### **A. Validity**

MacDermid's own expert has characterized Dr. Newby's patented inventions as exactly the "*opposite*" of what is taught by the prior art. MacDermid argues, however, that it should be permitted to fix the inadequacies of the prior art through the doctrines of "inherency" and "incorporation by reference." These doctrines are applied narrowly, however, and simply cannot correct the critical deficiencies in the prior art.

### **B. Enforceability**

MacDermid argues that the patents in suit were obtained through inequitable conduct. First, MacDermid cannot prove any wrongful intent, admitting that any alleged act was likely "unintentional." Second, MacDermid cannot prove that any prior art or information allegedly withheld from the Patent Office was "material." Indeed, MacDermid's expert admitted: 1) that any non-confidential prior art not cited to the Patent Office was the same as or cumulative to that which was cited; and 2) that he did not know if other allegedly withheld information would have been in any way significant to the Patent Office when examining the patents in suit.

### **C. Antitrust**

MacDermid's counterclaims for antitrust violations require it to prove that Atotech obtained its patents through "deliberate and intentional fraud" and that it had "market power". MacDermid can prove neither. First, its expert has essentially conceded that there was no

“deliberate and intentional fraud” Second, despite repeated requests, MacDermid cannot define the relevant market or described Atotech’s position within it.

#### **D. Infringement**

MacDermid argues that it does not infringe claim 15 of Atotech’s U.S. Patent No. 5,176,813 (“‘813 patent,” Ex. A)<sup>1</sup> because—although its sells a near identical copy of Atotech’s patented HEEF 25—its Technical Data Sheet (TDS) does not explicitly use the phrase “lead anode.” As MacDermid’s former employees have admitted, however, any customer reading the TDS would have understood that its ChromKlad 2500 process uses lead anodes. Indeed, the only reason that the phrase “lead anode” is not used explicitly is that MacDermid’s general counsel ordered that it be replaced by “commercially available anode”—a ruse that MacDermid’s sales engineer in charge at the time called “idiotic.” In fact, MacDermid’s president admits that MacDermid was advised by its general counsel that MacDermid infringes the ‘813 patent if the patent is valid.<sup>2</sup>


### **III. BACKGROUND**

#### **A. Chrome Plating In A Nutshell**

Generally speaking, chrome electroplating is the process of depositing chromium onto bare metal in a chemical bath, forming a very thin layer of chrome on the exterior of the metal part. Chrome plating may serve only to make the part more attractive and somewhat corrosion resistant, or it may be applied under the correct conditions to create durable plating suitable for

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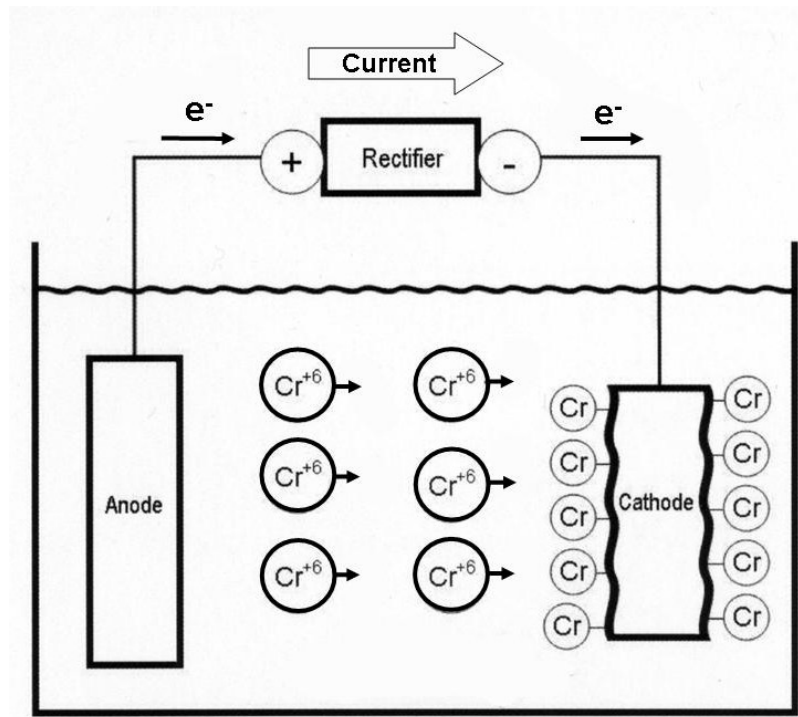
<sup>1</sup> The exhibits referenced by letter in this brief are exhibits to the attached Declaration of Joshua M. Ryland.


<sup>2</sup> Throughout this brief, blue underlined text indicates the presence of a hyperlink to another Adobe Acrobat document and the play button icon  indicates the presence of a hyperlink to a video file.



use in a variety of high corrosion and/or wear applications (*e.g.*, crankshafts or aircraft landing gears). The first application is generally called decorative chrome plating. The latter application is called functional or hard chrome plating. The inventions at issue in this case concern hard chrome plating.

To chrome plate a metal in either application, platers submerge the bare metal in a tank containing the chromium chemistry. An animated schematic plating operation is shown below:



(See, Conventional Plating Tutorial Video.) 

The tank includes an anode, like lead, steel, platinized titanium, carbon or iron, and the part to be plated submerged in an electrically conductive bath. A supply of electricity is attached to the anode and the part to be plated, thus making it the cathode in the electrical circuit. The bath solution contains water and chromic acid among other things. The chromic acid supplies hexavalent chromium ions—chromium molecules that lack six of the electrons that they would need to be electrically neutral chromium metal—in the bath.

By applying an electrical current from the cathode to the anode, free electrons are available at the cathode. The hexavalent chromium ions, lacking six electrons that they desire, combine with the available electrons at the cathode and become deposited upon the cathode as chromium metal.

The basic reaction that drives the chromium plating operation is unfortunately not very efficient. In other words, it takes a large amount of electricity to cause a relatively small amount of chrome plating.

## **B. Prior Art Hard Chrome Plating**

In hard chrome plating, it is necessary to apply a thicker layer of chrome to the metal part. This operation requires large amounts of electrical energy and is therefore expensive. Consequently, researchers have for many years been trying to find an ingredient, called a catalyst, to add to the bath to increase the efficiency of the plating operation and improve the quality of the chrome on the part.

In the mid 1980's Atotech and a German competitor, LPW, developed and patented a series of catalysts that improved the efficiency of the plating operation and improved the quality of the chromium plating layer. Because the inventions were at nearly the same time in different countries, Atotech was awarded U.S. Patent No. 4,588,481 ("481 patent," Ex. C), while LPW has a number of foreign patents stemming from German Patent Application 34 02 554 ("LPW Catalyst Application," Ex. D).

Atotech's '481 patent resulted from the work of two Atotech scientists, Dr. Hyman Chessin and Dr. Kenneth Newby. Drs. Chessin and Newby found that adding certain sulfonic acids to the plating bath could increase the efficiency of the plating operation from 12%–16%, to as high as 28%, as shown in the table below from the '481 patent:

TABLE II

	S/C	Plating Efficiency
<u>Sulfonic Acids of invention</u>		
Methyl sulfonic acid	1:1	27%
Ethyl sulfonic acid	1:2	26%
Propyl sulfonic acid	1:3	23%
Methane disulfonic acid	2:1	27%
1,2-Ethane disulfonic acid	1:1	26%
<u>Sulfonic Acids of Low Efficiency</u>		
t-Butyl sulfonic acid	1:4	20%

TABLE II-continued

	S/C	Plating Efficiency
Trifluoromethyl sulfonic acid	1:1	20%

According to the '481 patent, the "preferred bath compositions of the invention are those in which the organic sulfonic acid is methyl sulfonic acid [MSA]...." (Ex. C, col. 3, lines 14-16.) LPW's Catalyst patent discloses similar catalysts.

At the time, researchers did not understand very well the relationship between the type of anode used and the catalyst; and the composition of the anode was not viewed as an important part of the equation. Indeed, neither the '481 patent nor the LPW Catalyst Application includes the word "anode," let alone a recommendation of a particular type of anode—they related to the invention of certain catalysts, nothing more.

The work on the '481 patent became the foundation of Atotech's HEEF 25 technology, which used MSA as the catalyst. In contrast to other chrome electroplating methods, HEEF allowed electroplaters to hard chromium plate at a greater electrical efficiency (High Efficiency) while minimizing the damage to the surface of the exposed, but non-plated base metal (Etch-Free) of the part to be plated. LPW developed a similar technology, also using MSA as the catalyst. HEEF and LPW's related MSA technology quickly became the industry-standard for hard chrome plating.

At the time of the inventions of the '481 patent and LPW Catalyst application, many different types of anodes were available for use in chrome plating. According to U.S. Patent No.

4,406,756, cited in the background of the '481 patent, the "usual" anodes in use at that time were lead or stainless steel. MacDermid's expert stated that other "possible" anodes were iron, carbon, platinized titanium and beryllium oxide coated titanium. (Deposition of Donald Baudrand ("Baudrand Depo.," Ex. R), p. 70.)

While use of MSA revolutionized the hard chrome plating industry, the plating industry noticed that MSA accelerated the corrosion of the lead and/or lead alloy anodes typically used by platers. Anode corrosion is a source of great expense for electroplaters; quickly corroding anodes must be replaced more often and tanks must be cleaned more frequently. Moreover, the product of lead anode corrosion, lead chromate, is considered to be a hazardous waste material and is therefore an expensive item for electroplaters to dispose of properly.

The prevailing belief among the experts in the industry, including Atotech and LPW, was that they had solved *half* of the problem of an optimum bath through the use of MSA as the catalyst. The solution to the other half of the problem, according to prevailing thought, was determining the best anode to use to reduce the corrosion problem. Indeed, the belief that MSA was a necessary part of the optimum bath was so prevalent in the industry that Atotech was working on ways to purify MSA and other methods to see if they would alleviate the corrosion problem. (Ex. A, '813 patent, col. 2, lines 43-47.) Unfortunately they did not.

Firmly convinced that an anode that did not corrode in the presence of MSA was the answer, industry experts looked at changing *the composition of the anodes* used in the electroplating bath. Indeed, an LPW German Patent Application DE 36 25 187 filed in 1986 ("LPW Anode Application," Ex. E) stated that the corrosion problem with alkyl sulfonic acid catalysts, like MSA, was so significant that many platers would not use lead anodes:

Hard-chromium electrolytes containing alkyl sulfonic acids are known from the German Pat. Appl. 34 02 554 [the LPW

Catalyst Application]. These electrolytes make it possible to deposit microcracked hard chromium layers on metal alloys, particularly on ferrous alloys and aluminum alloys. However, there is the drawback *that these electrolytes behave very aggressively toward the anode.*

*Conventional anodes for chromium electrolytes consisting of lead/tin alloys are destroyed very rapidly by electrolytes containing alkyl sulfonic acids.* It has, therefore, been necessary, until the present, to employ titanium anodes which were coated with a relatively thin layer of platinum.

(Ex. E, p. 2-3, emphasis added.)

The invention of the LPW Anode Application was to add certain metals, such as tin, palladium, silver or selenium, to lead in the anode to reduce corrosion. So pervasive was the belief at the time that MSA had to be used in an optimum bath, the only catalyst LPW reports testing with its inventive anode was methyl sulfonic acid, MSA. (Ex. E, pp. 5-6.)

Such was the state of the art in chrome plating in 1990: use MSA as a catalyst and a non-lead anode or live with the corrosion of lead and lead alloy anodes, and continue to work on ways of improving lead anodes to reduce corrosion.

### **C. Dr. Newby's Invention**

The Atotech patents in suit represent the ingenuity of an Atotech scientist willing to disregard conventional wisdom. Dr. Kenneth Newby invented a chrome plating process that works precisely because it is in direct contravention to what the industry experts believed.

Dr. Newby discovered that running a chrome plating bath *without* substantial amounts of MSA—anathema to the industry—while using conventional lead anodes and a different catalyst called MDSA was the solution. There was nothing to suggest that Dr. Newby's invention would work. It was a true invention that remarkably cannot be fully explained even today—more than a decade later.

To be sure, Dr. Newby did much more than merely discover the previously unknown properties of a known catalyst, MDSA. Dr. Newby did something radically different. While everyone else was researching different anode compositions or different MSA additives, Dr. Newby realized that MSA was not the solution, but the problem. Ironically, the prior art patents that show how wrong the industry was—the ‘481 patent, the LPW Catalyst Application, and the LPW Anode Application—are the very patents that MacDermid alleges invalidate Dr. Newby’s invention.

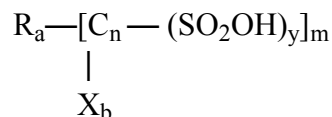
#### **D. The ‘813 And ‘175 Patents**

Dr. Newby’s invention is covered in Atotech’s ‘813 patent and U.S. Patent No. 5,453,175 (“‘175 patent,” Ex. B). It is an invention that has brought both Atotech and Dr. Newby acclaim throughout the world as leaders in hard chrome plating. So recognized was the significance of the invention that no other competitor sought to challenge the validity of the ‘813 or ‘175 patents, or their foreign counterparts for over a decade, until MacDermid. Indeed, Atotech’s principal competitor in the hard chrome plating market, LPW, has licensed these patents from Atotech—not infringed upon them like MacDermid.

The reason is clear. Dr. Newby went against the conventional thinking in the industry and then Atotech narrowly directed its patents to Dr. Newby’s true invention. The patents cover Dr. Newby’s invention of the use of an *alkyl polysulfonic acid* (such as MDSA) with a *lead anode* and the *absence of enough monosulfonic acid* (such as MSA) to prevent corrosion to the anode. Claim 15 of the ‘813 patent is representative:

15. A chromium plating process which comprises electroplating from a bath comprising *a lead anode*, a basis-metal cathode and a plating bath consisting essentially of chromic acid and sulfate in amounts sufficient to obtain efficient functional electrodeposition *in the substantial absence of a corrosion-*

*producing monosulfonic acid, and at least one alkyl polysulfonic acid or salt* having the formula:



where a and b are independently from 0 to 2, n is from 1 to 3, m and y are independently from 1 to 3, provided that the total number of sulfonic groups in the molecule is not less than 2, X is halogen or oxygen, R is unsubstituted lower alkyl, or substituted lower alkyl where the substituents on R are halogen or oxygen, and where hydrogen occupies any positions otherwise unaccounted for on carbon or oxygen, the bath producing bright, adherent chromium deposits.

While the chemical equation may seem formidable, MacDermid admits that it describes MDSA. Indeed, MacDermid's president of the Americas admits that MacDermid has been advised by its own general counsel that it infringes claim 15 if that claim is valid. Yet, MacDermid still argues that even though its customers use the ChromKlad 2500 process exactly as MacDermid instructs, with the chemicals that MacDermid sells, which have no other uses, MacDermid is somehow not liable for its customer's infringement.

#### **E. MacDermid's ChromKlad 2500 Process**

From the beginning it was MacDermid's intention to copy Atotech's HEEF 25 process so closely that its products were not just competitive, but instead that each product in MacDermid's line could be used by a customer as a direct substitute for the very same Atotech product. (Deposition of Raymond Kern ("Kern Depo.," Ex. S), p. 97.) Indeed, through its misappropriation of Atotech's trade secrets, MacDermid's goal was to itself "*manufacture the HEEF products*" and then sell Atotech's patented HEEF 25 as its own product—simply renamed ChromKlad 2500, "*since this is a larger number than 25.*" (Ex. F and Ex. G.)

Although MacDermid claims that it has no idea whether its customers use its ChromKlad 2500 chemistry with a lead anode, as Atotech's patents require, its recently retired U.S. marketing manager was not aware of any ChromKlad 2500 customers who did *not* use lead anodes:

Q. Were you aware of any ChromKLAD 2500 customers that weren't using lead anodes?

A. No.

(Deposition of Anthony Varuolo ("Varuolo Depo.," Ex. T), p. 69.) 


The recently departed product manager for ChromKlad 2500 agreed, stating that nearly 100 percent of MacDermid's customers use lead anodes:

Q. \* \* \* Based on your experience in hard chrome plating, what percentage of platers who would plate using, for example, Macdermid CromKlad 2500 system would use lead alloy anodes?

MS. LUBBEN: Object to the form of the question.

MR. ROBERTSON: Join.

A. I would say nearly 100 percent.

(Kern Depo., pp. 171-172, emphasis added.) 

It makes perfect sense that there is no substantial use of ChromKlad 2500 other than with lead anodes. MacDermid specifically intended ChromKlad 2500 to be a copy of Atotech's HEEF 25. Moreover, MacDermid's ChromKlad 2500 Technical Data Sheet ("TDS," Ex. H, pp. 2, 9)—while coyly not using the phrase "lead anode"—without question instructs an informed reader, like a customer, to use lead anodes through use of the lead anode synonyms "standard anode" and "commercially available anode:"


Q. On page 2 of that [Technical Data Sheet], under advantages, it says, "Uses standard pretreatment [and] anodes"?

A. Uh-huh, yes.

Q. That would still be lead anodes --



- A. Yes.  
Q. -- wouldn't it, sir?  
A. Yes.  
Q. If you turn to page 9 --  
A. Yes.  
Q. -- about halfway down the Page, it says, "Anodes."  
A. Yes.  
Q. Do you see that? It says, "Use commercially available anode material"?  
A. Uh-huh.  
Q. Is it your understanding that's still lead anodes?  
A. Yes, sir.  
**Q. And was it your customer's understanding that that was lead anodes?**  
A. Yes.  
MR. ROBERTSON: Object to the form of the question.  
A. Yes.

(Varuolo Depo., p. 68-69, emphasis added.) 

Indeed, the original version of MacDermid's TDS specifically stated that ChromKlad 2500 was to be used with lead alloy anodes. (Ex. I, p. 4.) It was only because of the Atotech patents that "lead anode" was replaced with "commercially available anode:"

- Q. [D]id you make the change removing lead anodes from [the ChromKlad 2500 TDS]?  
A. Yes.  
\* \* \*  
Q. And did global inform you that change was made because of a patent?  
A. Yes.  
Q. And was that in an e-mail?  
A. I believe it was, when it came with the new sheet, new technical data sheet. Yes.

(Varuolo Depo., p. 71.) 

Mr. Kern confirmed it was not a chemist responsible for communicating with customers who instigated the change, but rather it was MacDermid's general counsel:


- Q. And were you advised by Mr. Dirken that it was at the insistence of general counsel that that change be made from

recommending lead alloy anodes to commercially available materials?

MR. ROBERTSON: Object to form.

MS. LUBBEN: Same objection.

A. Yes.

(Kern Depo., p. 171, emphasis added.) 


For sure there was no reason for the change other than to give MacDermid some basis for arguing that it did not cause its customer's infringement:

Q. Did you have any conversations with anyone else about making that change?

A. Just Mark Jankowski.

Q. ... What was your conversation with Mr. Jankowski regarding that change?


A. ***I thought it was idiotic to make that change, because lead anodes are the only anodes that can be used.*** And my boss, Mark, doesn't have a lot of patience. He said, just do it.

(Varuolo Depo., p. 71, emphasis added.) 

In short, the "recommendation" to use the ChromKlad 2500 process with "commercially available anodes" was nothing more than a pronounced wink. If MacDermid intended its customers not to use lead anodes it would have said so, or given instructions on how to run a bath with different anodes. It did neither. Indeed, MacDermid's TDS is specific to the use of lead anodes, even if that phrase is not literally used, through its description of the anodes and their function. (Kern Depo., pp. 172-73.) For example, the TDS discusses removal of lead chromate scale from the anodes, which Mr. Kern admits occurs ***only*** on lead anodes. *Id.* MacDermid sells a process—a combination of chemicals for use with specified equipment, per MacDermid's instructions and assistance—that has no use whatsoever other than in an infringing manner.

There is also no question that MacDermid well understood that sales of the ChromKlad 2500 process infringed the '813 patent. Michael Siegmund, president of the Americas for MacDermid, testified that MacDermid's general counsel advised him that if the '813 patent was valid, then MacDermid infringed it:

- Q. But there wasn't any discussion of the risk if the patents weren't found invalid, correct?
- A. I think that John -- no, I think that *if we could not prove the patent's invalid, yes, I guess then we would have been infringing, or at least that was the message John [Cordani, MacDermid's general counsel] was giving to me.*

(Deposition of Michael Siegmund ("Siegmund Depo.," Ex. U), p. 65.) 

#### IV. ARGUMENT

##### A. Construction Of The Patents In Suit

Claim interpretation is a matter for the court. *Cybor Corp. v. FAS Tech., Inc.*, 138 F.3d 1448, 1456 (Fed. Cir. 1998)(*en banc*). The Court's primary emphasis should be how the patentee used the terms in the claims, specification and prosecution history. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005)(*en banc*). The Court may additionally rely on "extrinsic" evidence such as dictionaries and expert witness testimony to better understand the underlying technology or to construe the claim terms. *Id.* The Court must be careful, however, to consider such extrinsic evidence in the context of the intrinsic record. *Id.* at 1319.

Based on expert and fact discovery, Atotech believes the following terms are in dispute. If MacDermid proffers constructions for any additional terms, Atotech will address those in its responsive brief.

## 1. The Meaning Of “Lead Anode”.

As used in the ‘175 and ‘813 patents, “lead anode” means “***anodes that in use are composed at least in part of lead.***”

The patents in suit explain that the phrase “lead anode” is not meant to mean lead literally, but to have the broad definition that this term is given in the art:

In this specification, the term “lead anode” is intended to define plating-bath anodes formed of lead or lead alloys commonly containing varying percentages of tin or antimony, either alone or in combination with other metals.... Such materials are well known to those skilled in the art, and as such form no part of this invention.

(Ex. A, ‘813 patent col. 2, lines 12-22; Ex. B, ‘175 patent, col. 2, lines 12-22.)

Mr. Altmayer testified during his deposition that to one of skill in the art the anodes “formed of lead or lead alloys” means an anode that is lead, lead alloy or coated with lead, citing as specific examples lead anodes, lead alloy anodes and platers’ practice of throwing lead salts into a bath using a platinized titanium anode in order to coat the anode with lead peroxide, thereby formed an anode in part composed of lead. (Deposition of Frank Altmayer (“Altmayer Depo.,” Ex. V), p. 222.)

## 2. The Meaning Of “Substantial Absence Of A Corrosion-Producing Monosulfonic Acid.”

As used in the ‘813 patent the term means “amount of monosulfonic acid in the bath that is insufficient; *i.e.*, equal to or greater than zero, to cause anode corrosion greater than that encountered in conventional chromium plating baths.”

MacDermid’s expert implies that “substantial absence” means “may include.” To the extent that “may include” means an amount “equal to or greater than zero,” the parties are in substantial agreement. This is without question the ordinary meaning of the term “substantial

absence” and is wholly consistent with the goal of the invention—which is the use of polysulfonic acid instead of a corrosion producing monosulfonic acid—and the usage of the phrase in the ‘813 patent. (*See, e.g.*, Ex. A, ‘813 patent, col. 3, lines 22-30.)

### 3. The Meaning Of “Replacing At Least Part Of The Alkylsulfonic Acid With An Alkyldisulfonic Acid.”

As used in the ‘175 Patent, this term means “use of an alkyldisulfonic acid, halogenated alkyldisulfonic acid or salt thereof instead of some or all of the alkylsulfonic acid.”

Claim 1 of the ‘175 patent is a so-called Jepson claim. In a Jepson claim, the preamble of the claim states what is known in the art. The language following the word “improvement” explains how the invention is different from or distinguishes over the known art. *Rowe v. Dror*, 112 F.3d 473, 479 (Fed. Cir. 1997). Claim 1 reads as follows:

1. In the method of electrodepositing chromium at a cathode efficiency of at least 20% utilizing a lead anode, a current density of at least 11 A/dm<sup>2</sup> and a plating bath containing chromic acid, sulfate and an alkylsulfonic acid, said process characterized by corrosion of the lead anode, the *improvement* comprises replacing at least part of the alkylsulfonic acid with an alkyldisulfonic acid, halogenated alkyldisulfonic acid or salt thereof, whereby corrosion of the lead anode is substantially reduced. (Emphasis added.)

The claim admits that a bath having a lead anode, chromic acid, sulfate and an alkylsulfonic acid is prior art. That provides the context against which the invention is judged. In this case, then, the invention is the use of an alkyldisulfonic acid, halogenated alkyldisulfonic acid or salt thereof instead of “replacing” the conventional alkylsulfonic acid. This is exactly how the invention is described in the ‘175 patent.

The claim is not an instruction sheet on how to convert a conventional alkylsulfonic acid to a polysulfonic acid bath, as MacDermid suggests. The claim does not preclude any amount of an alkylsulfonic acid, nor does it require it. Indeed, the language “replacing at least part of”

means just that: there may be an insignificant amount of an alkylsulfonic acid or there may be none. Indeed, the very invention is using an alkyldisulfonic acid instead of a corrosion-producing alkylsulfonic acid to minimize corrosion. To read the claim to require both an alkylsulfonic acid and an alkylpolysulfonic acid, as MacDermid proposes, is contrary to the full scope of invention warranted by the specification.

## **B. The Patents In Suit Are Valid.**

MacDermid argues that Atotech's patents in suit are both anticipated by and obvious over Atotech's '481 patent, the LPW Catalyst application and the LPW Anode application discussed above. While these patents are treated separately below, they are each indicative of the pervasive belief in the industry that MSA was the solution to hard chrome plating, not the problem.

The relevant subject matter of the claims of Atotech's '813 and '175 patents as related to validity is illustrated in the table below. As can be seen, unlike all of the prior art, they claim the inventive use of an alkylpolysulfonic acid (MDSA) with a lead anode to the substantial exclusion of a corrosion-producing alkylsulfonic acid (MSA). In the words of MacDermid's expert, they claim the "*opposite*" of the MSA catalyst prior art. (Baudrand Depo., pp. 115-116.)

The claims of Atotech's '813 patent relate to a chromium plating process which comprising electroplating from a bath including:	The claims of Atotech's '175 patent relate to a method of electrodepositing chromium including:
<ul style="list-style-type: none"> <li>• a lead anode;</li> <li>• the "substantial absence of a corrosion-producing monosulfonic acid," (MSA); and,</li> <li>• "at least one alkylpolysulfonic acid or salt thereof," (MDSA).</li> </ul>	<ul style="list-style-type: none"> <li>• a lead anode; with</li> <li>• "at least part of the alkylsulfonic acid," (MSA) of conventional systems being replaced "with an alkyldisulfonic acid...or salt thereof," (MDSA).</li> </ul>

MacDermid has the burden of proving invalidity by clear and convincing evidence. *Glaxo Group Limited v. Apotex, Inc.*, 376 F.3d 1339, 1348 (Fed. Cir. 2004). This burden, difficult from the start, “is ‘*especially difficult*’ when, as is the present case, the infringer attempts to rely on prior art that was before the patent examiner during prosecution.” *Id.*, emphasis added.

Both the ‘481 patent and the LPW Anode application were cited in the specifications of the patent in suit, and the Patent Office determined the patents in suit are valid over each reference. While the Patent Office did not specifically consider the LPW Catalyst application, MacDermid’s expert concluded that, as far as validity issues, the disclosure of the LPW Catalyst application is “essentially the same” as the ‘481 patent. In other words, MacDermid presents nothing new—it just asks this Court to disagree with the Patent Office on the same prior art.

**1. Atotech’s ‘481 Patent Does Not Disclose The Use Of A Lead Anode And Teaches That MSA Is The Preferred Catalyst. It Does Not Invalidate The Patents In Suit.**

There are a number of fundamental problems with MacDermid’s assertion that Atotech’s ‘481 patent invalidates the claims of the ‘813 or ‘175 patents:

- the ‘481 patent does *not* disclose the use of an anode, much less a lead anode;
- the ‘481 patent identifies the *preferred* catalyst as MSA—the “*opposite*” of what the patents in suit claim; and,
- *the Patent Office has already determined that the patents in suit are valid over the ‘481 patent.*

From the start, then, MacDermid faces an “especially difficult” burden of proving the Patent Office wrong by clear and convincing evidence. *See, Glaxo Group Limited*, 376 F.3d at 1348. A burden it cannot meet.

**a. The ‘481 patent does not anticipate the claims of the patents in suit.**

Anticipation requires that a single reference disclose within its four corners each and every element of the claimed invention either expressly or inherently. *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347 (Fed. Cir. 1999). It is undisputed that the ‘481 patent does not mention a lead anode or even the word anode. (Baudrand Depo., p. 79.) The teachings of the ‘481 patent were believed to be indifferent to the type of anode uses. MacDermid’s expert was unsure why he believed a lead anode could be read into the ‘481 patent. He was unsure in his opinion whether a lead anode was inherently disclosed or expressly disclosed through the doctrine of “incorporation by reference.” (Baudrand Depo., pp. 80, 84-85.) Actually, neither doctrine applies.

“[A]nticipation by inherent disclosure is appropriate only when the reference discloses prior art that must necessarily include the unstated limitation, [or the reference] cannot inherently anticipate the claims.” *Transclean Corp. v. Bridgewood Servs., Inc.*, 290 F.3d 1364, 1373 (Fed. Cir. 2002) (emphasis in original). Thus when a claim limitation is not explicitly set forth in a reference, evidence “must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.” *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991). It is not sufficient if a material element or limitation is “merely probably or possibly present” in the prior art relied upon. *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295 (Fed. Cir. 2002).

When the ‘481 patent issued, there was no reason it would have been “necessary” to use a lead anode to practice its teachings. It is undisputed that other anodes would work and in fact were used prior to the ‘481 patent. According to U.S. Patent No. 4,406,756 (“‘756 patent,” Ex.



Q), cited in the background of the ‘481 patent, the “usual” anodes in use at that time were lead *or* stainless steel. (Ex. Q, ‘756 patent, col. 3, lines 42-43.) The LPW Anode application filed in 1986 in fact states that because lead anodes “are destroyed very rapidly” by MSA, “[i]t has, therefore, been *necessary*, until the present, *to employ titanium anodes....*” (Ex. E, p. 3.) Moreover, MacDermid’s expert admitted that “possible” anodes for use with the invention of the ‘481 patent were iron, carbon, platinized titanium and beryllium oxide coated titanium, although he believed that “mostly” lead alloy anodes were used. (Baudrand Depo., pp. 40, 70.)

Without question, since it was not “necessary” to use a lead anode with the invention of the ‘481 patent, a lead anode is not inherently disclosed in the ‘481 patent. Indeed, Mr. Baudrand admitted that he believed lead anodes were inherently disclosed in the ‘481 patent only because “they were so commonly used”—not because they were in any way necessary. (Baudrand Depo., p. 79.)

Since a lead anode is not inherently disclosed in the ‘481 patent, we turn now to whether a lead anode was “incorporated by reference” into the ‘481 patent. Whether and to what extent material has been “incorporated by reference” into a host document is a question of law. *Advanced Display Systems, Inc. v. Kent State University*, 212 F.3d 1272, 1282-83 (Fed. Cir. 2000). “To incorporate material by reference, the host document must identify with detailed particularity what specific material it incorporates and clearly indicate where that material is found in the various documents.” *Id.* Hardly can the ‘481 patent “identify with detailed particularity” that it expressly intended to incorporate therein a lead anode from another publication, when neither the word “anode” nor any equivalent is even used in the ‘481 patent. Likewise, the ‘481 patent does not “clearly indicate” where such an anode is disclosed in another publication. The ‘481 patent merely mentions a number of U.S. patents as background without

specifically identifying any material to incorporate into the ‘481 patent or where that material would be found in the prior art U.S. patents.

Accordingly, a lead anode is not disclosed in the ‘481 patent inherently or through “incorporation by reference.” Therefore, the ‘481 patent cannot anticipate the inventions of the patents in suit.

**b. The ‘481 patent does not in combination with another reference make obvious the claims of the patents in suit.**

Although MacDermid has alleged that the ‘481 patent makes the claims of the patents in suit obvious, it does not articulate a reason. Similarly, MacDermid’s expert merely speculates without basis that in hindsight it would have been obvious to try the patented combination. (Baudrand Depo., p. 114.)

The U.S. Supreme Court recently articulated the “obviousness” standard in *KSR International Co. v. Teleflex Inc. et al.*, 127 S.Ct. 1727 (2007) in a manner that compels a finding that the patents in suit are valid. According to the Supreme Court, combining elements to work together “in an unexpected and fruitful manner” supports a conclusion that the claimed invention is not obvious. *Id.* at 1740. Moreover, the Court explained, “when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious.” *Id.*

The ‘481 patent states “[t]he preferred bath compositions of the invention are those in which the organic sulfonic acid is methyl sulfonic acid,” MSA. (Ex. C, ‘481 patent, col. 3, lines 14-17.) Accordingly, from day one, the ‘481 patent taught away from the inventions of the ‘813 and ‘175 patents—which was the replacement, exclusion or substantial removal of MSA. Indeed, MacDermid’s expert agreed that with respect to anode corrosion—the specific problem

to which the inventions of the patents in suit are directed to solving—MSA is in fact the *opposite* of the preferred polysulfonic acid, such as MDSA:

Q. And the '813 patent teaches not to use MSA or just to use a small amount of MSA and instead use MDSA, correct?

A. Yes.

Q. .... So MSA is definitely not the preferred catalyst disclosed in the '813 patent, right?

A. Yes.

Q. It would be?

A. Not the preferred one with respect to anode corrosion.


**Q. *It would be the opposite of the preferred, so to speak, with respect to anode corrosion?***

MR. HORVACK: Objection to form.

BY MR. CAMPBELL:

Q. Yes?

A. *Yes.*

(Baudrand Depo., pp, 115-116.) 

Indeed even after the issuance of the '481 patent, no one appreciated the unexpected and fruitful results of using MDSA with a lead anode to the substantial exclusion of MSA. Indeed, after the issuance of the '481 patent the industry believed the only way to improve a hard chromium plating bath was to use MSA and to develop more corrosion resistant anodes. This is the whole purpose of the LPW Anode application, discussed further below. Dr. Newby conceived of the inventions of the patents in suit by defying industry convention to create a truly unexpected result—the very essence of invention according to the Supreme Court. The '481 patent simply does not make the inventions of the '813 and '175 patents obvious—in fact it proves the opposite.

## **2. The LPW Catalyst Application Does Not Disclose The Use Of A Lead Anode And Teaches That MSA Is The Preferred Catalyst.**

As MacDermid's expert admits, the disclosure of the LPW Catalyst application is “essentially the same” as the '481 patent for the purposes of validity. Consequently,

MacDermid's argument that the LPW catalyst application invalidates the patents in suit suffers from the same defects as its arguments regarding the '481 patent:


- just like the '481 patent, the LPW Catalyst application does *not* disclose the use of an anode, much less a lead anode;
- just like in the '481 patent, the LPW Catalyst application identifies a *preferred* catalyst as MSA—the “opposite” of what the patents in suit claim; and,
- the LPW Catalyst Application is “essentially the same” as the '481 patent, which the Patent Office has already determined does not affect the validity of the patents in suit.

The disclosure of the LPW Catalyst application adds nothing that changes the patentability analysis above for the '481 patent because their disclosures are essentially the same:

Q. But as far as your opinion on the validity of the '175 patent or the '813 patent, the disclosure of the '387 patent [LPW Catalyst application] is essentially the same as the '481?

MR. HORVACK: Objection to form, please.

A. Yes, in general.

(Baudrand Depo., pp. 195-96.) 

Consequently, the patents in suit are valid over the LPW Catalyst application for exactly the reasons given above for the '481 patent. Specifically, the LPW Catalyst application does not disclose a lead anode, or in fact any anode, and specifically teaches away from the invention of the patents in suit by recommending the use of an alkylsulfonic acid, MSA.

**3. The LPW Anode Application Teaches The Use Of MSA With A Lead Anode Composition That Is Corrosion Resistant—It Does Not Teach Or Even Mention The Use Of MDSA With A Lead Anode.**

Like both the '481 patent and the LPW Catalyst Application, there are several significant problems with MacDermid's assertion that the LPW Anode application invalidates the claims of the '813 or '175 patents:

- the LPW Anode application discloses only a monosulfonic acid, specifically MSA—the “*opposite*” of what the patents in suit claim;
- the invention of the LPW Anode application is a corrosion resistant anode *for use with MSA*; and
- the LPW Anode application is specifically disclosed in the patents in suit and, consequently, the *Patent Office has already determined that the patents in suit are valid over the LPW Anode application.*

To start, since the Patent Office has already determined that the patents in suit are valid over the LPW Anode application, MacDermid’s burden of proving invalidity by clear and convincing evidence is made “*especially difficult.*” *See, Glaxo Group Limited*, 376 F.3d at 1348, emphasis added.


**a.     *The LPW Anode application does not anticipate the claims of the patents in suit.***

As stated above, in order for a reference to anticipate a patent claim, the reference must disclose within its four corners each and every element of the claimed invention either expressly or inherently. *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347 (Fed. Cir. 1999). The problem with the LPW Anode application is that it does not disclose the use of a polysulfonic acid, like MDSA, to the substantial exclusion of an alkyl sulfonic acid, like MSA. Indeed, the purpose of the LPW Anode application is the creation of a lead anode alloy having improved corrosion resistance when subjected to a monosulfonic acid, particularly MSA.


The LPW Anode application is directed only to corrosion producing alkyl sulfonic acids, such as monosulfonic acids or MSA. Quoted fully above on page 8, the LPW Anode application stated that alkyl sulfonic acid “*electrolytes [disclosed in the LPW Catalyst application] behave very aggressively toward the anode. Conventional anodes for chromium electrolytes consisting of lead/tin alloys are destroyed very rapidly by electrolytes containing alkyl sulfonic acids.*” (Ex. E, p. 2-3, emphasis added.)

MacDermid's expert readily admitted that despite the reference to the LPW Catalyst application, when the LPW Anode application uses the phrase "alkyl sulfonic acid" it means a monosulfonic acid, like MSA—not a polysulfonic acid, like MDSA:

- Q. Is the German patent application 3402554 [referenced in the LPW Anode application], the same as the U.K. '387 publication [the LPW Catalyst application] we just talked about earlier?
- A. Well, I think so, yes.
- Q. And I want you to drop down a couple lines, I believe two sentences, and it says, "However, there's a drawback that these alkylates behave very aggressively toward the anode." Do you see that?
- A. I see that.
- Q. And by -- I'm sorry, these electrolytes. *The electrolytes means the alkylsulfonic acids again, right?*
- A. It means, yes.
- Q. Got it?
- A. *It really means methanesulfonic acid* [MSA].
- Q. Right. And at the top of the next page, it says, "Conventional anodes for chromium electrolytes consisting of lead tin alloys are destroyed very rapidly by electrolytes containing alkylsulfonic acids." Right?
- A. It says that.
- Q. *By alkylsulfonic acids it means a monosulfonic acid, like MSA?*
- A. *Yes.*

(Baudrand Depo. pp. 122-123, emphasis added.) 

- Q. And to confirm your understanding that the alkylsulfonic acids discussed are *MSA*, you see that in the example at the top of the next page it says *methylsulfonic acid*, right?
- A. *Yes.*

(Baudrand Depo. p. 124, emphasis added.) 

Although MacDermid has argued, contrary to the clear deposition testimony of its expert, that the LPW Anode application "incorporates by reference" MDSA through the general mention "that alkyl sulfonic acids are known from" the LPW Catalyst application, that mention is far too general to identify any specific catalyst. Nor does the reference state where a particular sulfonic

acid is discussed in the LPW Catalyst application. As such, no alkyl sulfonic acids from the LPW Catalyst application are “incorporated by reference” into the LPW Anode application. *See, Advanced Display Systems, Inc.*, 212 F.3d at 1282-83 (“To incorporate material by reference, the host document must identify with detailed particularity what specific material it incorporates and clearly indicate where that material is found in the various documents.”).

Indeed, consistent with his deposition testimony that the reference to “alkyl sulfonic acid” in the LPW Catalyst application means MSA alone, Mr. Baudrand confirmed it is conventional for persons skilled in the art to use “alkyl sulfonic acid” to refer to monosulfonic acids alone, thus excluding MDSA:

Q. .... But it would be understood by a person of ordinary skill in the art that you can mean alkylsulfonic acid to be a monosulfonic acid like MSA?

A. Yes.

Q. And that’s a conventional way of expressing that phrase?

A. Uh-huh.

(Baudrand Depo., p. 157.) 

Without question, the LPW Anode application does not anticipate the patents in suit, which recite the use of a polysulfonic acid to the substantial exclusion of MSA—the one catalyst specifically recommended in the LPW Anode application.

***b. The LPW Anode application does not in combination with another reference make obvious the claims of the patents in suit.***

The LPW Anode application is just one more reference that demonstrates the industry’s belief that MSA was the “gold standard” solution to an efficient hard chrome plating operation and that all that was needed was to find an anode that MSA did not corrode. That in fact was the whole point of the LPW Anode application: to add certain metals, such as antimony, selenium and palladium to the lead anode to improve its corrosion resistance. (Ex. E, p. 4.) There is no

mention whatsoever in the LPW Anode applications that polysulfonic acids might be less corrosive to the lead alloy anode. Nor is there any inkling that the solution to the anode corrosion problem would be to substantially remove MSA—indeed, the LPW Anode Application teaches exactly the opposite. (Baudrand Depo., pp. 115-116.)

The LPW Anode Application represents the exact industry bias that Dr. Newby had to overcome to conceive of his invention. In fact, it demonstrates that Dr. Newby's inventions claimed in the patents in suit were nonobvious and substantial advances over the prior art and industry preconceptions. *See, KSR International Co. v. Teleflex Inc. et al.*, 127 S.Ct. at 1740. The industry has recognized the patentability of Atotech's patents in suit. Indeed, LPW, the company that invented the technology of the LPW Catalyst and LPW Anode applications upon which MacDermid relies to argue invalidity disagrees with MacDermid. LPW, now called Enthone, has licensed the patents in suit—a strong objective secondary consideration that the patents in suit are valid. *See, KSR International Co. v. Teleflex Inc. et al.*, 127 S.Ct. at 1734 (endorsing *Graham v. John Deere Co. of Kansas City*, 383 U. S. 1, 17-18 (1966)).

Atotech requests that the Court grant it summary judgment that the claims of the patents in suit are valid over the '481 patent, the LPW Catalyst application, and the LPW Anode application.

**C. There Is No Inequitable Conduct—Atotech's Patents Are Enforceable.**


MacDermid pleads, in scattershot fashion, a variety of open-ended allegations of inequitable conduct, hoping that one will stick. This is why, as the Federal Circuit has put it, “the habit of charging inequitable conduct in almost every major patent case has become *an absolute plague.*” *Burlington Indus., Inc. v. Dayco Corp.*, 849 F.2d 1418, 1422 (Fed. Cir. 1988) (emphasis added).



MacDermid alleges at least eleven separate bases for inequitable conduct, spanning nearly *ten years* of Dr. Newby's conduct before the Patent Office. While MacDermid's expert condenses them into four general claims, even he admitted that *none of the four amounts to inequitable conduct*:

Q. So your testimony is that each one of these [claims for inequitable conduct in the expert report] in isolation isn't necessarily inequitable conduct, it was the overall combination which you believe was inequitable conduct?

A. Yes, sir.

(Baudrand Depo., p. 174.)  Based on this testimony alone, MacDermid's allegations of inequitable conduct should be dismissed.

MacDermid's vague and unsubstantiated allegations do not pass muster when it comes to sustaining a claim for inequitable conduct. "The potential for prejudice flowing from unwarranted charges of improper conduct led [the Federal Circuit] to establish objective rigor . . . there must be *material misrepresentation or omission* by the applicant, *with the intent to deceive or mislead* the examiner, in order to establish improper conduct in patent prosecution." *Magnivision, Inc. v. Bonneau Co.*, 115 F.3d 956, 960 (Fed. Cir. 1997) (internal citations omitted). Thus, to prevail, MacDermid must prove by clear and convincing evidence that Dr. Newby's alleged misstatements and omissions were both *material* to patentability and done with *intent* to deceive. MacDermid cannot do either—but apparently does not care.

Indeed, MacDermid's obliviousness to the requirements for inequitable conduct is particularly troublesome. Many of its allegations charge Atotech with a "failure to cite" material information that appears—plain as day—in the intrinsic record. Moreover, MacDermid not only *wholly ignores* the intent requirement necessary to prove inequitable conduct—its own expert admits that *Dr. Newby's alleged conduct "could have been unintentional" and that he did not*

*“deliberately” mislead the Patent Office.* (Baudrand Depo., p. 172.) Thus, MacDermid’s claims and defenses for inequitable conduct should be dismissed as a matter of law.

**1. MacDermid’s Allegations Against Dr. Newby Are Not Only Immaterial But Contrary To The Prosecution History.**

MacDermid alleges that Dr. Newby made material misrepresentations and omissions to the Patent Office by:

1. “failing to disclose material prior art references including the GB ‘387 publication [the LPW Catalyst Application] and an English translation of the DE ‘187 publication [the LPW Anode Application];”
2. “failing to disclose that lead and/or lead alloy anodes had been used by inventor Kenneth Newby and/or others during the research and development work that lead to the filing of the ‘481 patent;”
3. “submitting an affidavit on July 17, 1992 that misrepresented the true nature and use of prior art electrolytic chromium baths and of the tests performed to evaluate the use of MDSA as the plating catalyst;” and
4. “in a personal interview with the Examiner, misrepresenting that prior artelectrolytic chromium baths used in conjunction with lead and/or lead alloy anodes only used methane sulfonic acid and did not include methane disulfonic acid.”

(Expert Report of Donald Baudrand (“Baudrand Report”), Ex. J, p. 30.)

None of these claims, standing alone, is *material* to the patentability of Dr. Newby’s inventions. While MacDermid’s expert conceded this, MacDermid continues to press these claims on the theory that a *collection* of *less-than-material* references will somehow become material. Inequitable conduct is not an additive theory: “a patentee has no obligation to disclose an otherwise material reference if the reference is *cumulative* or *less material* than those already before the examiner.” *Halliburton Co. v. Schlumberger Technology Corp.*, 925 F.2d 1435, 1440 (Fed. Cir. 1991). In other words, MacDermid cannot manufacture a claim for inequitable conduct by adding together references that, taken individually, Dr. Newby *had no duty to*

*disclose*. And when coupled with the fact that the undisputed record shows that Dr. Newby actually disclosed the bulk of what MacDermid complains of, MacDermid's claim for inequitable conduct should be dismissed.

**a. *Atotech properly disclosed the LPW Anode Application and had no duty to disclose the LPW Catalyst Application.***

MacDermid's allegation that Dr. Newby committed inequitable conduct by failing to cite (a) the LPW Catalyst Application and (b) the LPW Anode Application to the Patent Office is particularly inexcusable. Neither "omission" was *material*.

Indeed, for the LPW Anode Reference ("German application number 3,625,187A"), *there is no omission at all*—it is cited by number and summarized in the beginning of the patents in suit:

30 Another attempted solution to the problem has been  
the investigation of materials which are resistant to  
attack by bath compositions containing MSA. For in-  
stance, in German application 3,625,187A, filed on Jul.  
25, 1986, anodes made of lead containing up to about  
35 9% by weight of antimony or about 1% by weight of  
palladium, with or without small amounts of tin, silver  
and/or selenium are reported to show "good results"  
when used in functional chromium electroplating pro-  
cesses carried out at 55° C., with a cathodic current  
40 density in the range of 30 to 32 amperes per square  
decimeter (a.s.d.) and an anodic current density of from  
25 to 30 a.s.d.


(Ex. A, '813 patent, col. 2, lines 29-42; Ex. B, '175 patent, col. 2, lines 34-46.)

And MacDermid's expert agrees:

Q. So the '813 patent discloses to patent examiner or to anybody reading the patent that the prior art includes the '481 patent and the '187 patent, right?

MR. HORVACK: Objection to the form, please, objection to form.

A. It appears to be, yes.

(Baudrand Depo., pp. 125-26).  Any claim that inequitable conduct occurred because of a

failure to cite the LPW Anode Application is baseless.

Similarly, Dr. Newby had no duty to cite the LPW Catalyst Application to the Patent Office because it was cumulative—its disclosure mirrored the ‘481 patent. *Halliburton*, 925 F.2d at 1442. In fact, MacDermid’s expert admits that the LPW reference “*is essentially the same as*” the ‘481 reference cited to the Patent Office. (Baudrand Depo., pp. 195-96.) While MacDermid makes much of a foreign application search report, it is not only nondispositive—it becomes flat out irrelevant if the reference is cumulative.

**b. Dr. Newby did not misrepresent the use of lead anodes in the development and application of the ‘481 patent.**

Dr. Newby did not misrepresent the use of lead anodes in the development and industrial uses of the ‘481—*he expressly disclosed that information during prosecution.*

In evaluating the ‘813 patent, the examiner posed the following:

“Newby is a co-inventor of the primary reference [the ‘481 patent] is in a perfect position to affirm or deny that lead anodes were used in [the ‘481 patent] and that lead anodes are used in industrial applications of the [the ‘481 patent] process. Applicant is reminded of his duty of candor in dealings with the [Patent Office].”

(Ex. K.)

To which Dr. Newby unambiguously responded:

“In comment upon the Examiner’s observation that the Applicant herein was a co-inventor with Chessin in the primary reference, and thus “. . . in a perfect position to affirm or deny that lead anodes were used in [the ‘481 patent] . . .”, *there is no dispute over that point*; lead anodes, as defined in the specification of this case, *are, and for many years have been, used in conventional plating processes*, and are so well known that one skilled in the art thinks of them only when a problem arises. It is Applicant’s position that the present invention is an improvement over any or all of the methods and processes of the prior art, and suggests that the reference to Applicant’s “. . . duty of in dealings with the [Patent Office] is candor . . .” is particularly inapposite here.”

(Ex. L.)

Despite this clear statement, MacDermid alleges that Dr. Newby's response *evaded* answering the Patent Office's question—apparently trying to leverage the Patent Office's reminder about the duty of candor into a whiff of misconduct. MacDermid's only support for this position, however, is its expert's "*guess*" that the patent examiner read Dr. Newby's statement only to answer that Dr. Newby was in the position to respond. (Baudrand Depo., p. 179.) MacDermid's argument entirely ignores the remainder of Dr. Newby's statements about the pervasive use of lead anodes in yet another attempt to manufacture a dispute regarding enforceability.

***c. Dr. Newby—in the patents in suit—makes clear that the prior art disclosed a range of sulfonic acids, including MSA and MDSA.***

MacDermid's casually charges that Dr. Newby misrepresented the prior art when prosecuting the patents in suit. And its expert posits that "the inventor and/or his agent misrepresented that prior art electrolytic chromium baths used in conjunction with lead and/or lead alloy anodes only used methane sulfonic acid and did not include methane disulfonic acid."

This is simply not true. Indeed, the patents in suit plainly disclose under the heading "Description of the Prior Art" that the prior art disclosed a variety of sulfonic acids, including MSA *and* MDSA:

on, and etching and corrosion of the anode. The disclosure of U.S. Pat. No. 4,588,481 specifies a variety of sulfonic acids, including methane-sulfonic acid (MSA), ethane-sulfonic acid (ESA), methanedisulfonic acid (MDSA) and 1,2-ethane-disulfonic acid (EDSA). Generally for economic reasons, MSA has become the agent of choice in a number of commercial embodiments for chromium plating which have appeared in the marketplace, even though severe scale buildup and anodic corrosion are encountered.

('813 patent, col. 1, lines 45-54; '175 patent, col. 2, lines 50-58.)

Moreover, MacDermid's expert conceded that he was not aware of MDSA being used in any commercial plating baths prior to the patents in suit. (Baudrand Depo., p. 187.) Again, Atotech is left wondering how Dr. Newby's clear disclosure of the prior art—and MacDermid's acknowledgement that the industry used only MSA before Dr. Newby's invention—render Dr. Newby's statements about the prior art a *material* omission, let alone inequitable conduct.

**d. MacDermid's allegations concerning the "purification" of MSA are not only disclosed in the patent, but have no bearing on materiality.**

MacDermid's most recent theory of misconduct is perhaps its most tenuous—that MDSA was not Dr. Newby's true invention; rather it was the "purification" of MSA. MacDermid's charge that Dr. Newby concealed his work regarding the purification of MSA can be debunked—once again—by a quick scan of his patents. The patents in suit make clear that Dr. Newby experimented with purified MSA alongside his experiments with MDSA *to definitively show that MDSA best solved the anode corrosion problem*:

I have also investigated the effect of the purity of MSA on anode corrosion, on the supposition that impurities accompanying MSA might be at least a part of the problem. As noted in connection with Table II hereinbelow, this has been found not to be the case.

(Ex. A, '813 patent, col. 2, lines 43-47; Ex. B, '175 patent, col. 2, lines 47-51.)

MacDermid's expert further debunks the notion that Dr. Newby's alleged concealment of purification experiments would be a material omission by admitting that *he did not know* whether the purification would be *material* to an examiner. (Baudrand Depo., p. 192.) Accordingly, there is no basis to conclude that Dr. Newby's withheld material information regarding his purification experiments, especially when they are *explicitly discussed in his patents*.

## 2. MacDermid Missed The Intent Requirement Completely.

From the outset, MacDermid has ignored that sustaining a claim for inequitable conduct requires proving *intent to deceive the Patent Office*. See, *Kimberly-Clark Corp. v. Procter & Gamble Distributing Co., Inc.*, 973 F.2d 911, 918 (Fed. Cir. 1992) (“It is fundamental that to establish inequitable conduct, an intent to deceive is required.”) (affirming no inequitable conduct); *Akron Polymer Container Corp. v. Exxel Container, Inc.*, 148 F.3d 1380, 1384 (Fed. Cir. 1998) (“[w]ithout a factual basis to establish a threshold level of deceitful intent, the inequitable conduct analysis is at an end”) (reversing inequitable conduct based on intent). And MacDermid cannot simply ask the Court to infer intent from its allegations. *Halliburton*, 925 F.2d at 1442 (“a mere showing that references having some degree of materiality were not disclosed does not establish inequitable conduct”). MacDermid has simply not made any objective showing of the intent required to sustain a claim for inequitable conduct, thus its claim should be dismissed.

Indeed, the record is clear: MacDermid’s expert concedes that—even if its allegations are true—there was no intent to deceive the Patent Office. During his deposition, MacDermid’s expert admits that he believes Dr. Newby to be “*honest*” and that any alleged misconduct “could have been *unintentional*.” He even testified that “while [Dr. Newby] committed inequitable conduct, *he did not do it maliciously or deliberately*.” (Baudrand Depo., p. 148.) MacDermid’s problem: accidental, unintentional, or even negligent inequitable conduct *does not exist*. See, *Northern Telecom v. Datapoint*, 908 F.2d 931, 939 (Fed. Cir. 1990) (“Given the ease with which a relatively routine act of patent prosecution can be portrayed as intended to mislead or deceive, clear and convincing evidence of conduct sufficient to support *an inference of culpable intent is required*.”). Accordingly, MacDermid’s claim for inequitable conduct fails as a matter of law.

#### D. MacDermid's Antitrust Counterclaim Should Be Dismissed

MacDermid's claim that Atotech's enforcement of its patents violates antitrust laws strains credulity. MacDermid's allegation, commonly called claim a "*Walker Process* claim" not only requires that MacDermid prove *inequitable conduct*, but that Atotech the patentee "*knowingly and willfully*" defrauded the USPTO. *Walker Process Equip., Inc. v. Food Mach. & Chem. Corp.*, 382 U.S. 172, 177 (1965). As MacDermid failed to even plead—let alone provide—any factual basis for the *intent* required for inequitable conduct, it cannot credibly charge that Atotech possessed the scienter required for a Walker Process claim.

Indeed, the Federal Circuit has stated that *Walker Process* claims require a much more stringent set of proofs than the already high inequitable conduct standard—namely *actual fraud at higher threshold showings of materiality and intent than that required for unenforceability*:

A finding of inequitable conduct does not by itself suffice to support a finding of Walker Process fraud, because "inequitable conduct is a broader, more inclusive concept than the common law fraud needed to support a Walker Process counterclaim." . . . demonstrate Walker Process fraud, a claimant must make *higher threshold showings of both materiality and intent than are required to show inequitable conduct*. . . Furthermore, a finding of *Walker Process fraud cannot result from an equitable balancing between the two factors; a strong showing of one cannot make up for a deficiency in the other*.

*Dippin' Dots, Inc. v. Mosey*, 476 F.3d 1337, 1346-47 (Fed. Cir. 2007)(emphasis added)(internal citations omitted).

MacDermid's antitrust must be dismissed for the very simple reason *that there is no inequitable conduct*—the required first step toward an antitrust violation. And even assuming—against the great weight of the evidence—that there was, MacDermid cannot show that Atotech's conduct satisfies the stringent *Walker Process* standards—namely, outright and knowing fraud. Even MacDermid's expert confirms this:



Q. Got it. Essentially you believe that while he [Dr. Newby] committed inequitable conduct, he did not do it maliciously or deliberately?

A. Correct.

(Baudrand Depo., p. 48.) 

Besides missing its mark on fraudulent conduct, MacDermid's antitrust claim also fails because it has not offered competent evidence on an essential element of a Sherman Act claim—evidence that the “relevant market.” *Queen City Pizza, Inc. v. Domino's Pizza, Inc.*, 124 F.3d 430 (3d Cir. 1997). Establishing a “relevant market” is an essential element of a § 2 Sherman Act claim, and MacDermid bears the burden of defining the relevant market. *Pastore v. Bell Telephone Co. of Pennsylvania*, 24 F.3d 508, 512 (3d Cir. 1994); *Tunis Bros. Co., Inc. v. Ford Motor Co.*, 952 F.2d 715, 726 (3d Cir. 1991) *cert. denied* 505 U.S. 1221 (1992).

MacDermid alleges that the relevant market for antitrust purposes is:

The relevant market consists of high efficiency hard (or functional) electrolytic chromium baths in the United States, including mixed catalyst and high efficiency etch free. Atotech's employees have referred to this market as “proprietary” and have admitted that Atotech maintains 90 percent of this market.

(Supplemental Response to Atotech First Set of Interrogatories.)

Not only did MacDermid never offer any testimony or evidence to support this proposed market, but it promptly distanced itself from that definition when it could find no support.


Indeed, MacDermid's putative damages expert based his antitrust opinion *solely on the scope of Atotech's patents*:

Q. And what do you base that [antitrust] opinion on?

A. As I stated earlier, it's my - - my common sense knowledge of - - and in fact, my business experience that having been exposed to patents for virtually my entire business career that a patent vests in a patent holder rights and privileges that are in essence a monopoly, the sole right to use a particular patent.

Q. Anything else?

A. Not at this time, no.

(Kosowsky Depo., pp. 25-6.) 

In *Illinois Tool Works, Inc. v. Independent Ink, Inc.*, **the Supreme Court expressly rejected MacDermid's reliance on patents to define a relevant antitrust market** or market power. 547 U.S. 28 (2006). Although a patent precludes others from practicing the claimed invention, the relevant market for antitrust claims looks beyond the claims to include products or processes that are reasonably interchangeable (not necessarily identical) with that in the patent. In other words, a patent claim may limit **technological** substitutes, but antitrust markets look to **economic** substitutes.

The relevant product market is properly defined as those “commodities reasonably interchangeable by consumers for the same purposes.” *United States v. E.I. Du Pont de Nemours & Co.*, 351 U.S. 377, 395 (1956); *SmithKline Corp. v. Eli Lilly & Co.*, 575 F.2d 1056, 1062-63 (3d Cir.), cert. denied, 439 U.S. 838 (1978). Factors to be considered include price, use and qualities. *Du Pont de Nemours*, 351 U.S. at 404.

Accordingly, the products in a relevant product market would be characterized by a cross-elasticity of demand, in other words, the rise in the price of a good within a relevant product market would tend to create a greater demand for other like goods in that market. *Id.* at 380, 400. “The outer boundaries of a product market are determined by the reasonable interchangeability of use or the cross-elasticity of demand between the product itself and substitutes for it.” *Brown Shoe Co. v. U.S.*, 370 U.S. 294, 325 (1962); *Tunis Brothers*, 952 F.2d at 722 (same).

MacDermid offers no evidence on, nor does it even refer to, cross-elasticity of demand or other terms of reasonable interchangeability for customers of high efficiency, etch free

chromium electrolytic baths. MacDermid ignores the availability of other hard chrome chemistries not covered by the Atotech patents (such as conventional or mixed catalyst systems). MacDermid also ignores chrome plating processes that compete with Atotech's HEEF® electrochemical process, such as plasma sprays or physical vapor deposition, and further ignores the fact that other metals also compete with chrome, such as nickel despite its own Global Director of Hard Chromium acknowledging these competitive processes and plating metals:

This has lead to many new market alternatives (to hard, electrolytic chrome) such as Trivalent chrome, Plasma spray, High velocity oxy-fuel (HVOF), Electroless nickel boron plating, Electroless nickel composite plating, Electrodeposited nanocrystalline cobalt-phosphorus coating (PVD) and Intensified plasma-assisted processing. . . and nanocomposite coatings.

(Durkin Business Plan, Ex. M.)

Where, as here, an antitrust plaintiff fails to define its proposed relevant market with reference to the rule of reasonable interchangeability and cross-elasticity of demand, or alleges a proposed relevant market that clearly does not encompass all interchangeable substitute products even when all factual inferences are granted in plaintiff's favor, ***the relevant market is legally insufficient and courts will dismiss or enter judgment for the defendant.*** See, e.g., *Queen City Pizza*, 124 F.3d 430 (granting motion to dismiss).

MacDermid's utter inability to show the required scienter combined with its reliance on the patent to define the antitrust market dooms its *Walker Process* claim. As MacDermid cannot meet its burden on at least two essential elements of its antitrust claim—a fact that was clear before MacDermid filed its claim—the Court should dismiss MacDermid's claims with sanctions.

**E. MacDermid Contributes To Its Customers' Direct Infringement Of Claim 15 Of The '813 Patent.**

Although it appears that MacDermid infringes nearly every claim of both patents in suit, for simplicity in this motion Atotech will focus on MacDermid's liability for contributing to its customers' direct infringement of claim 15 of Atotech's '813 patent.

Contributory infringement is defined under 35 USC § 271(c) as follows:

Whoever sells a component of a patented ... combination ... constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

To succeed on a claim of contributory infringement, in addition to proving an act of direct infringement, Atotech must show that defendant "knew that the combination for which its components were especially made was both patented and infringing" and that defendant's components have "no substantial non-infringing uses." *Golden Blount, Inc. v. Robert H. Peterson Co.*, 365 F.3d 1054, 1061 (Fed. Cir. 2004).

***MacDermid's president of the Americas, Michael Siegmund, admitted that MacDermid was advised by its general counsel, John Cordani, that if the '813 patent is valid, then MacDermid is liable for infringement.*** (Siegmund Depo., p. 65.) As demonstrated above, the '813 patent is without question valid. Atotech thus requests that this Court grant summary judgment that MacDermid contributorily infringes claim 15 of Atotech's '813 patent.

Unfortunately, despite Mr. Siegmund's admission of infringement, MacDermid continues to deny liability. Consequently, Atotech demonstrates below that MacDermid is liable for contributory infringement.

# **1. MacDermid's Customers Directly Infringe Claim 15 Of Atotech's '813 Patent.**

Rather than argue that its customers do not infringe claim 15 of the '813 patent, MacDermid speculates that its customers: 1) are free to choose what type of anode to use and might not choose a "lead" anode as required by the claim; and 2) the customer chooses the plating conditions and thus might not plate to get a "bright, adherent" deposit as required by the claim. Both arguments are wholly specious. Moreover, both arguments ignore the fact that MacDermid sells a "Hard Chrome Plating Process" using lead anodes—not merely generic chemicals.

In any event, there is no doubt whatsoever that MacDermid's customers use lead anodes—indeed, those most knowledgeable about sales of the ChromKlad 2500 process agree customers use lead anodes nearly 100 percent exclusively:

- MacDermid's former marketing manager for ChromKlad, Ray Kern, testified in his deposition that **"nearly 100 percent"** of MacDermid's customers use lead anodes. (Kern Depo., pp. 171-2.)
- MacDermid's recently retired marketing manager, Mr. Anthony Varuolo, testified that **"...lead anodes are the only anodes that can be used"** with ChromKlad 2500 and that he was not aware of a single ChromKlad 2500 customer that did not use lead anodes. (Varuolo Depo., pp. 69, 71.)
- Mr. Hoyer Robinson, owner of Hydro-Platers, briefly a customer for ChromKlad 2500, testified that Hydro-Platers exclusively used lead anodes including with ChromKlad 2500. (Deposition of Hoyer Robinson, Ex. X, p. 14.)

There is also no doubt that MacDermid's customers use ChromKlad 2500 to plate to a "bright, adherent chromium deposit." Indeed, MacDermid admits ChromKlad 2500 is a **"Hard Chrome Plating Process"**—the whole purpose, according to MacDermid, being to provide an adherent or **"hard deposit"** with a **"bright"** finish. (Ex. H.) There is simply no reason for

customers to purchase ChromKlad 2500 unless they desire a “bright, adherent” deposit.

Otherwise, they could use the much cheaper conventional plating systems available for 50 years.

MacDermid’s customers without question directly infringe claim 15 of Atotech’s ‘813 patent. Indeed, every single sale of ChromKlad 2500 results in a customer’s infringement of the ‘813 patent.

**2. MacDermid Knew The Combination For Which Its Chromklad 2500 Process Was Made Was Patented And Infringing The ‘813 Patent.**

There is no question that MacDermid knew Atotech had a patent, the ‘813 patent, covering MacDermid’s ChromKlad 2500 process. On April 16, 2004, after having heard in the field that MacDermid would be selling a version of HEEF 25, general counsel for Atotech wrote to MacDermid to notify MacDermid of the ‘813 patent. (Ex. N.) On April 29, 2004, MacDermid’s general counsel, John Cordani, acknowledged having received the letter and referenced the ‘813 patent. (Ex. O.) On March 17, 2005, MacDermid was again notified of Atotech’s ‘813 patent after Atotech had received reports that MacDermid was offering a ChromKlad 2500 process designed to replace HEEF 25. (Ex. P.)

MacDermid well understood that sales of the ChromKlad 2500 process infringed the ‘813 patent. Michael Siegmund, president of the Americas for MacDermid, testified that MacDermid’s general counsel advised him that if the ‘813 patent was valid, then MacDermid infringed it:

- Q. But there wasn’t any discussion of the risk if the patents weren’t found invalid, correct?
- A. I think that John -- no, I think that *if we could not prove the patent’s invalid, yes, I guess then we would have been infringing, or at least that was the message John [Cordani, MacDermid’s general counsel] was giving to me.*

(Siegmond Depo., p. 65.) 

Contributory infringement requires only “knowledge” that a certain activity causes infringement. Mr. Siegmond admitted this knowledge. Contributory infringement does not require intent. *Hewlett-Packard Co. v. Bausch & Lomb*, 909 F.2d 1464, 1469 (Fed. Cir. 1990). As such, MacDermid’s subjective belief as to whether or not the ‘813 patent is valid is irrelevant.

### **3. There Is No Substantial Non-Infringing Use For MacDermid’s ChromKlad 2500 Process And Thus MacDermid Is Liable For Contributory Infringement Of The ‘813 Patent.**

Atotech has demonstrated above that MacDermid’s customers directly infringe claim 15 of the ‘813 patent and that MacDermid has knowledge of the infringement. The last prong of contributory infringement is that MacDermid’s ChromKlad 2500 process has “no *substantial* non-infringing uses.” *Golden Blount, Inc.*, 365 F.3d at 1061, emphasis added. What is important are the actual uses—the potential for other non-infringing uses is not important. *Mentor H/S, Inc. v. Medical Device Alliance, Inc.*, 244 F.3d 1365, 1379 (Fed. Cir. 2001).

ChromKlad 2500 is not a chemical in a MacDermid catalog. It is a “Hard Chrome Plating Process.” (Ex. H, pp. 1-2.) As evidenced by the TDS for the ChromKlad 2500 “Hard Chrome Plating Process,” that process involves a number of chemical products, instructions on how to operate the process and at what parameters, and the required equipment. Part of that equipment is a lead anode. (Ex. H.) While the TDS does not mention “lead anode” directly, a customer reading the TDS would readily understand that the uses of the phrases “standard anode” and “commercially available anode” in the ChromKlad 2500 process meant a lead anode, as Mr. Varuolo, the recently retired marketing manager for ChromKlad 2500, testified. (Varuolo Depo., pp. 68-69, emphasis added.)

Indeed, Mr. Varuolo could not identify a single customer who had ever used the ChromKlad 2500 process with anything other than a lead anode. (Varuolo Depo., p. 69.) According to Mr. Varuolo, *“lead anodes are the only anodes that can be used”* with the ChromKlad 2500 process. (Varuolo Depo., p. 71.) In other words, the person with the most knowledge of customer’s usage of ChromKlad could not identify *any* non-infringing uses of ChromKlad 2500—substantial or not. Mr. Kern, the product manager responsible for the development of ChromKlad 2500, agreed that there are no other substantial uses for ChromKlad 2500 stating that “nearly 100 percent” of ChromKlad customers would use lead anodes. (Kern Depo., pp. 171-172.)

Considering that the TDS for the ChromKlad 2500 process provides instructions that a customer would understand to be for using lead anodes only, and the MacDermid employees most knowledgeable about the product could not identify any actual non-infringing uses, there can be no substantial non-infringing uses for the ChromKlad process. *See, Golden Blount, Inc.*, 365 F.3d at 1063 (Court relied on evidence that instruction sheet taught only the infringing use in concluding there were no “substantial non-infringing uses”). Indeed, Michael Siegmund admitted as much conceding that if MacDermid could not prove the ‘813 patent is invalid, then MacDermid infringes. (Siegmund Depo., p. 65.)

## V. CONCLUSION

MacDermid misappropriated Atotech’s trade secrets so it could “manufacture the HEEF products” itself. It should be no surprise then to MacDermid that the sales of its replacement product for HEEF 25, the ChromKlad 2500 process, infringes Atotech’s ‘813 patent—it was specifically designed to do so.



MacDermid's invalidity and unenforceability arguments fail as well. MacDermid merely disagrees with considered and informed decisions of the Patent Office.

Lastly, MacDermid's antitrust counterclaim is legally insufficient and should be dismissed.

MacDermid set out to "inflict as much damage on [Atotech] as possible" by misappropriating Atotech's trade secrets and willfully infringing Atotech's patents. It is time for MacDermid to account.

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Respectfully submitted,

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